CIRCON microTechnology

PUBL MV 9100

microVideo System

- **Versatile**
  - — 10 to 600 power
  - — Inspection-Training-Analysis
- **Economical**
  - — Moderate Cost
  - — Nothing else to buy
- **Integrated System**
  - — Simple to Operate
  - — Coordinated Components

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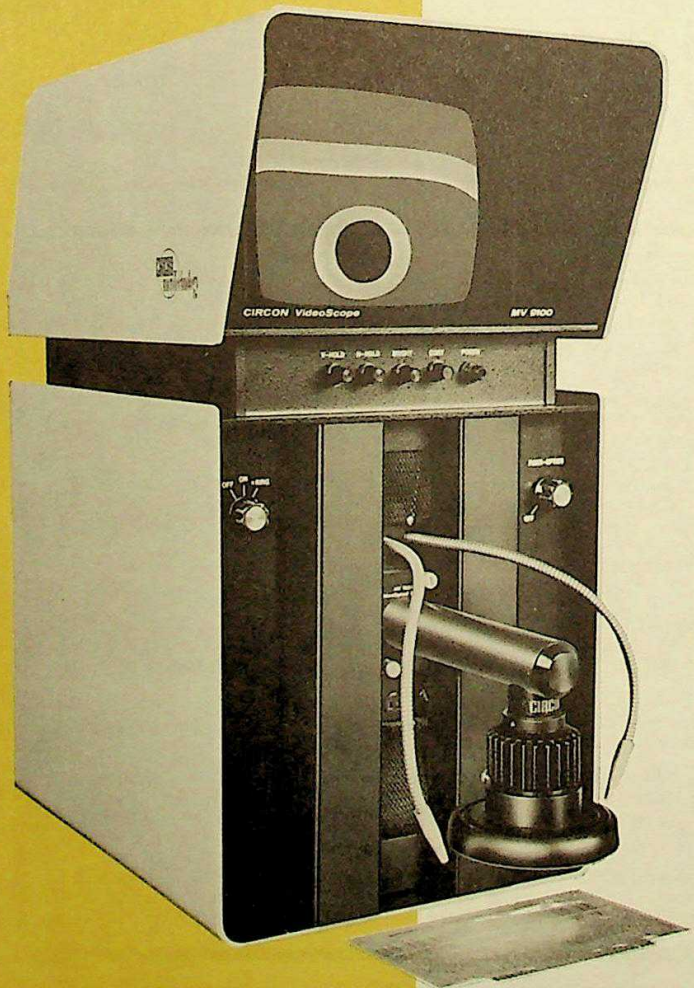
The CIRCON MV 9100 MicroVideo System is a fully coordinated Closed Circuit Television System designed specifically for microscopic examination up to 600 power. This integrated system includes all of the quality components required to obtain superior viewing, including: a High Resolution Camera, Solid State Monitor, a Complete Interchangeable Optical System, Power Focus Camera Platform, and a Fiber Optic Illumination System.

The most important advantages of the CIRCON MicroVideo System over the use of a conventional microscope are:

1. Higher speed inspection and measurement.
2. Reduction of operator strain and error by replacing the microscope with a television screen.
3. Image magnification by both optical and electronic means — system delivers more than 40% greater working distance and depth of field than is possible with any microscope.
4. Allows several observers to view the same magnified subject.
5. Option of using video tape recorders and several large monitors.

The integrated MicroVideo System is engineered to provide a compact, versatile work station suitable for a wide variety of activities including miniature assembly, inspection and repair operations. A variable speed control activates the power movement of the MicroOptical System vertically to focus on the work viewed. The entire MicroVideo System occupies less than 1.5 square feet of bench space yet provides a complete work station incorporating illumination, magnification and variable speed power focusing.



V 9105 CIRCON MicroVideo System $2980.00

CIRCON's MicroVideo Systems are suitable for a wide variety of tasks in inspection and production. Large machine parts may be inspected for surface characteristics and tolerance at low magnifications. Higher magnification may be achieved which is suitable for miniature assembly work or Printed Circuit Board inspection. Integrated Circuits may be easily inspected and repaired. With several hundred power magnification, the grain structure and faults invisible to the eye may be detected in subjects using the MicroVideo. The MV 9555 Zoom MicroOptical System is ideal for Printed Circuit Board and Artwork Inspection.

Magnification is achieved by several Interchangeable MicroOptical Systems custom designed by CIRCON for this application. By utilizing top quality lenses, but eliminating the bulky hardware not required, the MicroOptical Systems provide all the functions of a fine microscope at a fraction of the usual cost. Both Turret and Zoom MicroOptical Systems are available over a range of 10 to 600 power.

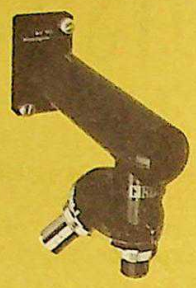
High intensity fiber optic illumination is an integral part of the Micro Video System. Two small light pipes direct up to 9,000 foot candles of cold light coaxially down through the turret lens system. These same self-supporting light pipes may be used to supply side illumination onto the work area without interfering with the operation being performed. Each variable intensity pipe may be positioned independently to provide the optimum lighting for any subject. CIRCON can provide a calibrated stage with substage condenser illumination as an accessory. A cool florescent Ring Illuminator is available for the Zoom MicroOptical System.

CIRCON's MicroVideo System facilitates demonstration and teaching by enabling several people to visually follow a discussion. The System may be combined with video tape recorders or special effects devices to provide a custom video system for any requirement.

CIRCON also offers the MV 9200 Binocular MicroVideo System which incorporates a permanent optical system with substage condenser illumination and binocular eyepieces for color differentiation.

CIRCON microVideo Systems

MV 9505
Turret MicroOptical System



The MV 9505 Interchangeable Turret MicroOptical System is engineered by CIRCON specifically for Closed Circuit Television. By utilizing top quality lenses but eliminating the bulky hardware not required, the Turret MicroOptical System provides all the functions of a fine microscope. The System includes:

- 10x Widefield Eyepiece
- 1x, 3x, and 10x Objective Lenses
- Three Lens Rotating Turret Assembly
- Coaxial Fiber Optic Adaptor

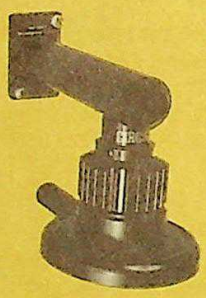
Since the system is designed to accept standard microscope lenses, CIRCON can supply any other eyepiece or objective lens combination desired. Focusing of subjects is achieved by operating the Power Focus Control on the CIRCON MicroVideo which moves the entire Turret MicroOptical System vertically within a 5.5 inch range.

A distinctive feature of the Turret MicroVideo System is that the optical image is magnified electronically 40%. For example, if the MicroOptical System magnifies the image 100 times, the subject appears 140 times actual size on the monitor screen. Hence, the MicroVideo System will yield 40% greater working distance and depth of view than is possible with a microscope of equal power.

Cool, high intensity fiber optic illumination is incorporated by inserting the self positioning Light Guides into the built-in adaptor. The entire field is evenly illuminated by having the light projected down the lens system onto the subject. Side illumination is achieved by moving the two light pipes to the optimum position.

To order the Interchangeable Turret MicroOptical System alone specify MV 9505, $785. The MV 9110 MicroVideo System including this MicroOptical System and the MV 9100 Console is $2950.

Zoom MicroOptical System



CIRCON offers a series of four interchangeable 5:1 Zoom MicroOptical Systems for inspection and assembly operations requiring magnification between 3 and 750 power. The parfocal lens system design permits variation in magnification without refocusing.

Brilliant, non-glare, cool fluorescent lighting is obtained by the Ring Illuminator on the MV 9545, 9555, and 9565 Zoom housings. The entire work area is glare-free and evenly illuminated for maximum clarity. The Illuminator may be removed if necessary.

High intensity fiber optic illumination is provided by small diameter light pipes built into MicroVideo System Console. Up to 9,000 foot candles of side illumination is directed onto the work area without interfering with the operation being performed. Each self-positioning, variable intensity Light Pipe may be moved independently to provide the optimum lighting for any subject.

The MV 9545, 9555 & 9565 interchangeable Zoom MicroOptical Systems provide a working distance of approximately 3.75 inches. The MV 9575 MicroOptical System has a working distance of .004 inches.

Optics Only			Complete MicroVideo System	
Optics No.	Magnification	Price	System No. (optics & console)	Price
MV 9545	4-20x	$825	MV 9104	$2965
MV 9555	20-100x	$850	MV 9105	$2980
MV 9565	40-200x	$875	MV 9106	$2990
MV 9575	200-1000x	$975	MV 9107	$2995

MV 9200
Binocular MicroVideo System

The CIRCON MV 9200 Binocular MicroVideo System is an integrated television-microscope system designed for microscopic examination from 10 to 750 power. The system includes all of the quality components required to obtain superior viewing, including: High Resolution Camera, Solid State Monitor, Complete Binocular Optical System, X-Y Stage and two Illumination Systems. The most important advantages of the CIRCON Binocular MicroVideo System over the use of a conventional microscope are:

1. Reduced operator strain and error by replacing the eyepieces with a television screen.
2. Image magnification by both optical and electronic means — allowing the system to deliver more than 40% greater working distance and depth of field than is possible with any microscope alone.
3. Allows several observers to view the same magnified subject.
4. Option of using video tape recorders and several large monitors.
5. Higher speed inspection and measurement.

CIRCON'S Binocular Optical System is designed to be suitable for a wide variety of tasks. The system includes:

- 10x Widefield Eyepieces
- 4x, 10x and 45x Objective Lenses
- Three Lens Rotating Turret Assembly
- X - Y Stage
- Top and Substage Illumination
- Removeable Substage

The operator normally uses the VideoScreen but has the option of checking the color characteristics of the specimen with the Binocular Eyepieces. CIRCON can supply any eyepiece or objective lens combination desired.

A condenser focuses all of the light supplied by a substage Illuminator for bright-field observation. Uniform, topstage illumination is obtained by a Vertical Illuminator projecting light down the lens system. Variable intensity control permits precise selection of the amount of light supplied to the subject.

The CIRCON MV 9200 Binocular MicroVideo System can be combined with video tape recorders or special effects devices to provide a custom video system for any requirement. Several large monitors may be used for group discussions or teaching situations. MV 9200 $3450.

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